



DEPARTMENT OF PERMITTING, ENVIRONMENT, AND REGULATORY  
AFFAIRS (PERA)  
BOARD AND CODE ADMINISTRATION DIVISION

## NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY  
PRODUCT CONTROL SECTION  
11805 SW 26 Street, Room 208  
Miami, Florida 33175-2474  
T (786) 315-2590 F (786) 315-2599  
[www.miamidade.gov/pera](http://www.miamidade.gov/pera)

Hurricane Protecting Industries, LLC  
3301 SW 13<sup>th</sup> Drive  
Deerfield Beach, FL 33442

### SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County PERA - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. PERA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

### DESCRIPTION: Series "HPI 175R Retrofit" Aluminum Storefront System – L.M.I.

**APPROVAL DOCUMENT:** Drawing No. 12-019.1, titled "HPI 175R Retrofit Glazing System Large & Small Missile Impact Rated", sheets 1 through 8 of 8, dated 07/06/12, prepared by EngCo, Inc., signed and sealed by Pedro M. De Figueiredo, P.E., bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

### MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

**LABELING:** Each unit shall bear a permanent label with the manufacturer's name or logo, city, state, model/series, and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

**RENEWAL** of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

**TERMINATION** of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

**ADVERTISEMENT:** The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

**INSPECTION:** A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA revises NOA# 09-1228.02 and consists of this page 1 and evidence pages E-1 and E-2, as well as approval document mentioned above.

The submitted documentation was reviewed by Manuel Perez, P.E.



*MP*  
7/20/12

NOA No. 12-0312.07  
Expiration Date: October 06, 2015  
Approval Date: July 26, 2012  
Page 1

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**A. DRAWINGS**

1. Manufacturer's die drawings and sections.
2. Drawing No **12-019.1**, Sheets 1 through 8 of 8, titled "HPI 175R Retrofit Glazing System Large & Small Missile Impact Rated", dated 07/06/12, prepared by EngCo, Inc., signed and sealed by Pedro M. De Figueiredo, P.E.

**B. TESTS**

1. Test reports on: 1) Air Infiltration Test, per TAS 202-94  
2) Uniform Static Air Pressure Test, Loading per TAS 202-94  
3) Water Resistance Test, per TAS 202-94  
4) Large Missile Impact Test per, 201-94  
5) Cyclic Wind Pressure Loading per FBC, TAS 203-94  
along with marked-up drawings and installation diagram of a HMC 175R retrofit aluminum fixed window, prepared by Hurricane Test Laboratory, LLC, Test Report No. **HTL-0314-0305-10**, dated from 03/18/10 to 05/04/10, signed and sealed by Vinu J. Abraham, P.E.  
*(Submitted under previous NOA# 09-1228.02)*
2. Test reports on: 1) Air Infiltration Test, per TAS 202-94  
2) Uniform Static Air Pressure Test, Loading per TAS 202-94  
3) Water Resistance Test, per TAS 202-94  
4) Large Missile Impact Test per, 201-94  
5) Cyclic Wind Pressure Loading per FBC, TAS 203-94  
along with marked-up drawings and installation diagram of a HMC 175R retrofit aluminum fixed window, prepared by Hurricane Test Laboratory, LLC, Test Report No. **HTL-0314-0602-09**, dated 04/15-21/05, signed and sealed by Vinu J. Abraham, P.E.  
*(Submitted under previous NOA# 09-1228.02)*

**C. CALCULATIONS**

1. Anchor verification calculations and structural analysis, complying with FBC-2007, dated 10/12/09 and 9/9/10, prepared by EngCo, Inc., signed and sealed by Pedro M. De Figueiredo, P.E.  
*(Submitted under previous NOA# 09-1228.02)*
2. Glazing complies with ASTM E1300-04

**D. QUALITY ASSURANCE**

1. Miami-Dade Department of Permitting, Environment, and Regulatory Affairs (PERA)

  
Manuel Perez, P.E.  
Product Control Examiner

NOA No. 12-0312.07

Expiration Date: October 06, 2015

Approval Date: July 26, 2012

## Hurricane Protecting Industries, LLC

### NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

#### **E. MATERIAL CERTIFICATIONS**

1. Notice of Acceptance No. **08-1224.04** issued to Solutia, Inc. for their "**Saflex Composites Glass Interlayer with PET Core**" dated 02/25/09, expiring on 12/11/13.

#### **F. STATEMENTS**

1. Statement letter of conformance complying with FBC 2010, and of no financial interest, dated February 01, 2012, signed and sealed by Pedro M. De Figueiredo, P.E.
2. Laboratory compliance letter for Test Report No. **HTL-0314-0305-10**, issued by Hurricane Test Laboratory, Inc., dated 06/01/10, signed and sealed by Vinu J. Abraham, P.E.  
*(Submitted under previous NOA# 09-1228.02)*
3. Laboratory compliance letter for Test Report No. **HTL-0314-0602-09**, issued by Hurricane Test Laboratory, Inc., dated 12/04/09, signed and sealed by Vinu J. Abraham, P.E.  
*(Submitted under previous NOA# 09-1228.02)*
4. Asset Purchase Agreement dated May \_\_, 2012, between Hurricane Protection Industries, LLC along with Hurricane Manufacturing Company, LLC as sellers and Hurricane Protecting Industries, LLC as buyer, signed by Mr. Jeffry Robinson and Mr. Raymond Crawford.
5. Certificate of Conversion dated October 27, 2011, signed by Terri G Kibler, converting **Hurricane Manufacturing Corporation, Inc.** into **Hurricane Manufacturing Company, LLC**, filed with the State of Florida on December 08, 2011.
6. Department of State Certification of **HURRICANE MANUFACTURING COMPANY, LLC** as a limited liability company, active and organized under the laws of the State of Florida, dated December 09, 2011 and signed by Kurt S. Browning, Secretary of State.

#### **G. OTHER**

1. Notice of Acceptance No. **09-1228.02**, issued to Hurricane Manufacturing Corp. for their Series "HMC 175R Retrofit" Aluminum Storefront System – L.M.I., approved on 10/06/10 and expiring on 10/06/15.

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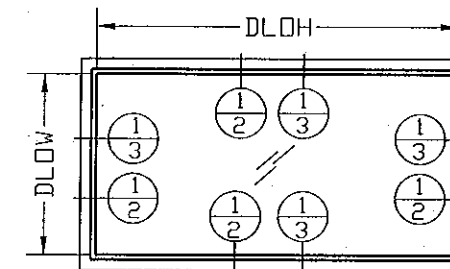
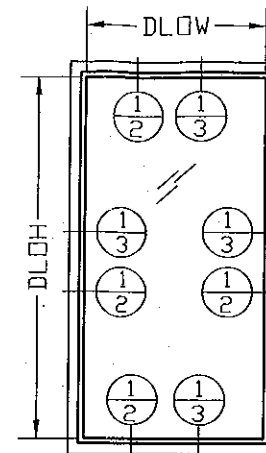
Manuel Perez, P.E.  
Product Control Examiner  
NOA No. 12-0312.07  
Expiration Date: October 06, 2015  
Approval Date: July 26, 2012

GENERAL NOTES:  
FLORIDA BUILDING CODE 2010 HVHZ  
LARGE MISSILE IMPACT RATED

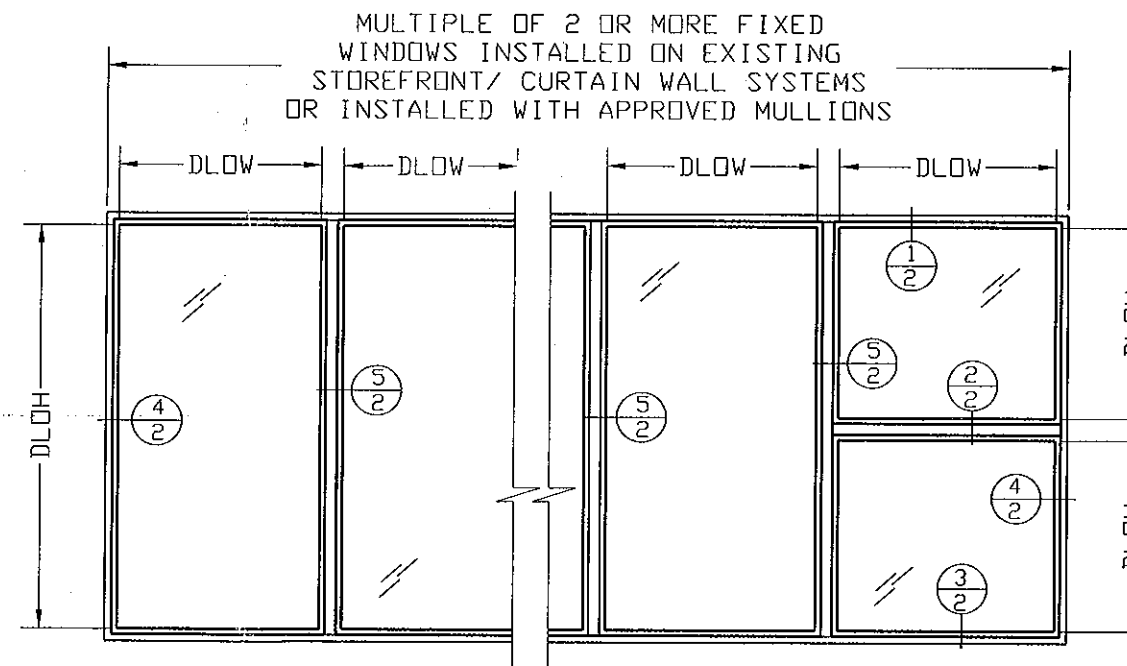
- 1- CODE: THIS PRODUCT HAS BEEN TESTED AND DESIGNED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE 2010 INCLUDING THE HIGH VELOCITY HURRICANE ZONE (HVHZ).
- 2- DEFINITION: THIS PRODUCT IS A FIXED TYPE WINDOW DESIGNED, CONSTRUCTED AND TESTED ATTACHED TO AN EXISTING STRUCTURE (SUB-FRAME) TO PROVIDE PROTECTION FROM HURRICANE FORCE WINDS AND WIND BORNE DEBRIS (LARGE MISSILE) WITHIN THE ALLOWABLE DESIGNED PRESSURES AND LIMITATIONS STATED IN THIS APPROVAL. INSTALLATION OF HURRICANE PROTECTION DEVICES IS NOT REQUIRED.
- 3- POSTING: PRODUCT SHALL BE LABELED AS PER FBC 2010. THE PERMANENT LABEL, MARKING OR ETCHING SHALL PROVIDE TRACEABILITY TO THE MANUFACTURER AND PRODUCT. SAMPLE LABEL:
- "HPI HURRICANE PROTECTING INDUSTRIES LLC  
DEERFIELD BEACH - BROWARD COUNTY - FLORIDA  
HPI 175R RETROFIT GLAZING SYSTEM - LARGE MISSILE IMPACT RATED  
MIAMI-DADE COUNTY PRODUCT CONTROL APPROVED
- 4- LOADS: DESIGNED LOAD CALCULATED BASED ON THE ASCE 7-10 AND PROVIDED BY A PROFESSIONAL ARCHITECT OR ENGINEER FOR EACH SPECIFIC PROJECT. THE CALCULATED DESIGNED PRESSURE MUST NOT EXCEED THE ALLOWABLE PRESSURES HEREIN SPECIFIED. THE DESIGN PRESSURES, AS DETERMINED FROM ASCE 7-10, ARE PERMITTED TO BE MULTIPLE BY 0.6
- 5- MATERIAL: GLAZING TO BE IMPACT LAMINATED GLASS AS SPECIFIED ON THIS APPROVAL.
- 6- FASTENERS: ASSEMBLY SCREWS AND ANCHORS SHALL BE AS SPECIFIED IN THE CURRENT SET OF DRAWINGS. INSTALLATION AND LOADS AS PER THIS APPROVAL. ANCHOR QUANTITY & SPACING MUST NOT EXCEED THE MAXIMUM LIMITS SPECIFIED BY THIS APPROVAL.
- 7- USE: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, ARCHITECT OR ENGINEER OF RECORD TO VERIFY THE FOLLOWING:
- 7.1- THE STABILITY OF THE STRUCTURE WHERE THE PRODUCT IS TO BE ATTACHED INSURING PROPER ANCHORAGE.
- 7.2- THE SITE SPECIFIC PROJECT CRITERIA, SUCH AS BUT NOT LIMITED TO, LOCAL CODE REQUIREMENTS, DESIGNED PRESSURES ETC.
- 7.3- THAT THIS APPROVAL IS ADEQUATE TO THE SPECIFIC PROJECT.
- 7.4- AN EVALUATION OF THE EQUIVALENT EXISTING STRUCTURES AND ANCHORING CONDITIONS AS COMPARED WITH TESTED STRUCTURES MUST BE PERFORMED BY A PROFESSIONAL ENGINEER AND A SIGNED AND SEALED REPORT SUBMITTED FOR EACH INSTALLATION.
- 8- 33 1/3% INCREASE IN ALLOWABLE LOADS HAVE NOT BEEN USED IN THE DESIGN OF THE ANCHORS FOR THIS PRODUCT APPROVAL, HOWEVER, WOOD SCREWS WITH 1.6 INCREASE FOR WIND LOAD DURATION HAVE BEEN USED.
- 9- DISSIMILAR MATERIALS: MATERIALS, INCLUDING BUT NOT LIMITED TO STEEL, THAT COME IN CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF 2010 FLORIDA BUILDING CODE.

FOR ALLOWABLE SIZES AND PRESSURES  
REFER TO SHEETS 4, 5, 6 AND 7

TYPICAL ELEVATIONS  
VIEW FROM OUTSIDE



SINGLE FIXED WINDOW  
SEE TABLE 1 FOR DESIGN RATINGS



MULTIPLE FIXED WINDOWS  
SEE TABLE 1 AND TABLE 2 OR TABLE 3 AND/OR TABLE 4  
FOR DESIGN RATINGS

TABLE OF CONTENTS:

SHEET	DESCRIPTION
1 of 8	GENERAL NOTES, TABLE OF CONTENTS AND TYPICAL ELEVATIONS
2 of 8	TYPICAL SECTIONS
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5 of 8	TABLE 2 MULLIONS TYPE 5A OR 5B CAPACITY DESIGN RATING
6 of 8	TABLE 3 MULLIONS TYPE 5C OR 5D CAPACITY DESIGN RATING
7 of 8	TABLE 4 HORIZONTALS TYPE 2A OR 2B CAPACITY DESIGN RATING
8 of 8	WINDOW COMPONENTS, GLAZING DETAILS & CORNER ASSEMBLY

HPI

HURRICANE  
PROTECTING  
INDUSTRIES LLC

3301 SW 13th DRIVE  
DEERFIELD BCH, FL 33442  
Phone: (954) 392-7933  
Fax: (954) 392-7356

PRODUCT:  
**HPI 175R**  
RETROFIT GLAZING SYSTEM  
LARGE & SMALL MISSILE  
IMPACT RATED

Engineering:  
**EngCo Inc.**

CA 8116  
5595 Orange Dr. 201  
Davie, FL 33314  
Tel.: (954) 585-0304  
Fax: (954) 585-0305  
Email: [engco@engco.com](mailto:engco@engco.com)  
Professional Engineer  
No. 52609  
STATE OF FLORIDA  
Pedro De Figueiredo  
PE 52609

JUL 06 2012

MIAMI-DADE BCCO:

PRODUCT REVISED  
as complying with the Florida  
Building Code  
Acceptance No. 12-0312.07  
Expiration Date 03.6.2015  
By: *Mauricio Perez*  
Miami Trade Product Control

Date: 07/06/12  
Scale: NA  
Design by: PPMF

Drawing Number  
**12-019.1**

SHEET  
1 of 8

EXISTING FRAMING ANCHORAGE ARE TO BE CALCULATED ON A PER JOB BASIS

EXISTING STOREFRONT FRAMING WITH MINIMUM PROPERTIES TO MATCH MULLIONS TYPE 5A OR 5B ON SHEET 5 OR MULLIONS TYPE 5C OR 5D ON SHEET 6

ALL EXISTING SUB FRAMING / STRUCTURES TO BE EVALUATED AS PER GENERAL NOTE 7.4

#10-16X1 1/4" SS. OR GR 5 SCREW SPACED AT 6" OC

1 1/16

DL OH

EXTERIOR

EXISTING STOREFRONT FRAMING

1 TYPICAL HEAD DETAIL

EXISTING FRAMING ANCHORAGE ARE TO BE CALCULATED ON A PER JOB BASIS

#14X1-1/2" HWH TEK SCREWS AT 3" OC

EXISTING STOREFRONT FRAMING

#10-16X1 1/4" SS. OR GR 5 SCREW SPACED AT 6" OC

EXTERIOR

DL OH

1 1/16

5 TYPICAL INTERMEDIATE REINFORCED MULLION DETAIL

#10-16X1 1/4" SS. OR GR 5 SCREW SPACED AT 6" OC

EXTERIOR

DL OH

1 1/16

4 TYPICAL JAMB DETAIL

EXISTING FRAMING ANCHORAGE ARE TO BE CALCULATED ON A PER JOB BASIS

#10-16X1 1/4" SS. OR GR 5 SCREW SPACED AT 6" OC

1 1/16

DL OH

EXTERIOR

EXISTING HORIZONTAL FRAMING WITH MINIMUM PROPERTIES TO MATCH FRAMING TYPE 2A OR 2B ON SHEET 7

2 TYPICAL HORIZONTAL DETAIL

EXISTING STOREFRONT FRAMING

#10-16X1 1/4" SS. OR GR 5 SCREW SPACED AT 6" OC

1 1/16

DL OH

EXTERIOR

3 TYPICAL SILL DETAIL

EXISTING FRAMING ANCHORAGE ARE TO BE CALCULATED ON A PER JOB BASIS

APPROVED MULLION OR APPROVED STRUCTURE DESIGNED AS PER FLORIDA BUILDING CODE SECTIONS 20 - ALUMINUM STRUCTURES 22 - STEEL STRUCTURES 23 - WOOD STRUCTURES

#10-16X1 1/4" SS. OR GR 5 SCREW SPACED AT 6" OC

FLUSH MOUNT OPTION SHOWN

EXTERIOR

DL OH

1 1/16

INSIDE MOUNT OPTION SHOWN

EXTERIOR

#10-16X1 1/4" SS. OR GR 5 SCREW SPACED AT 3" OC

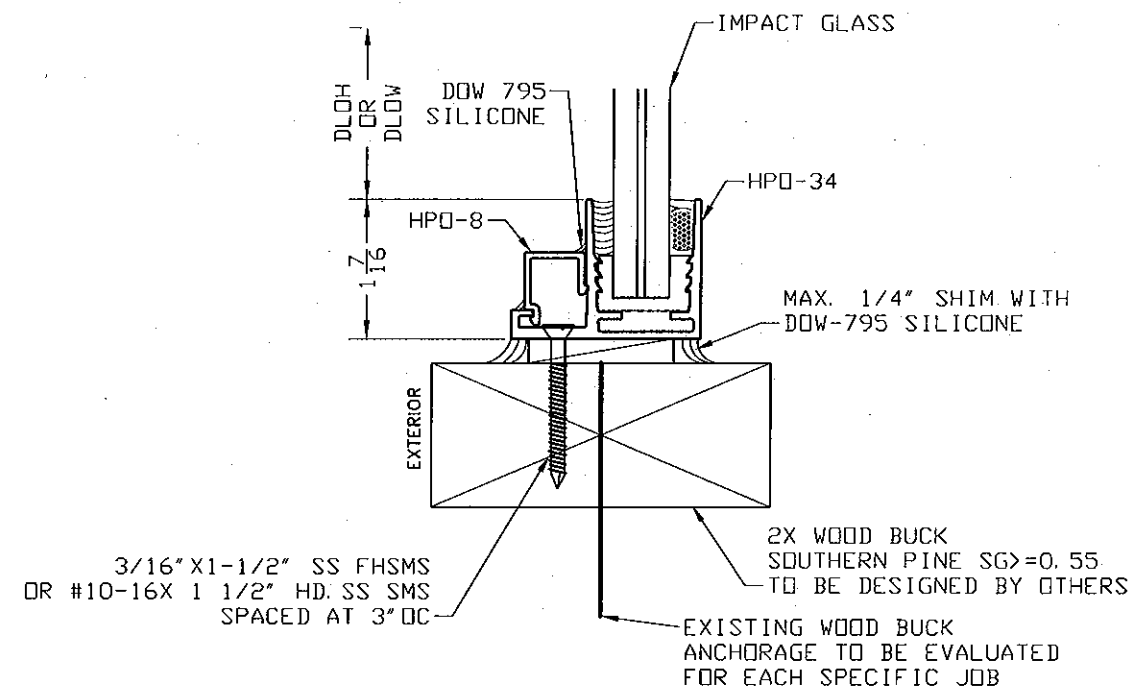
1 7/16

DL OH

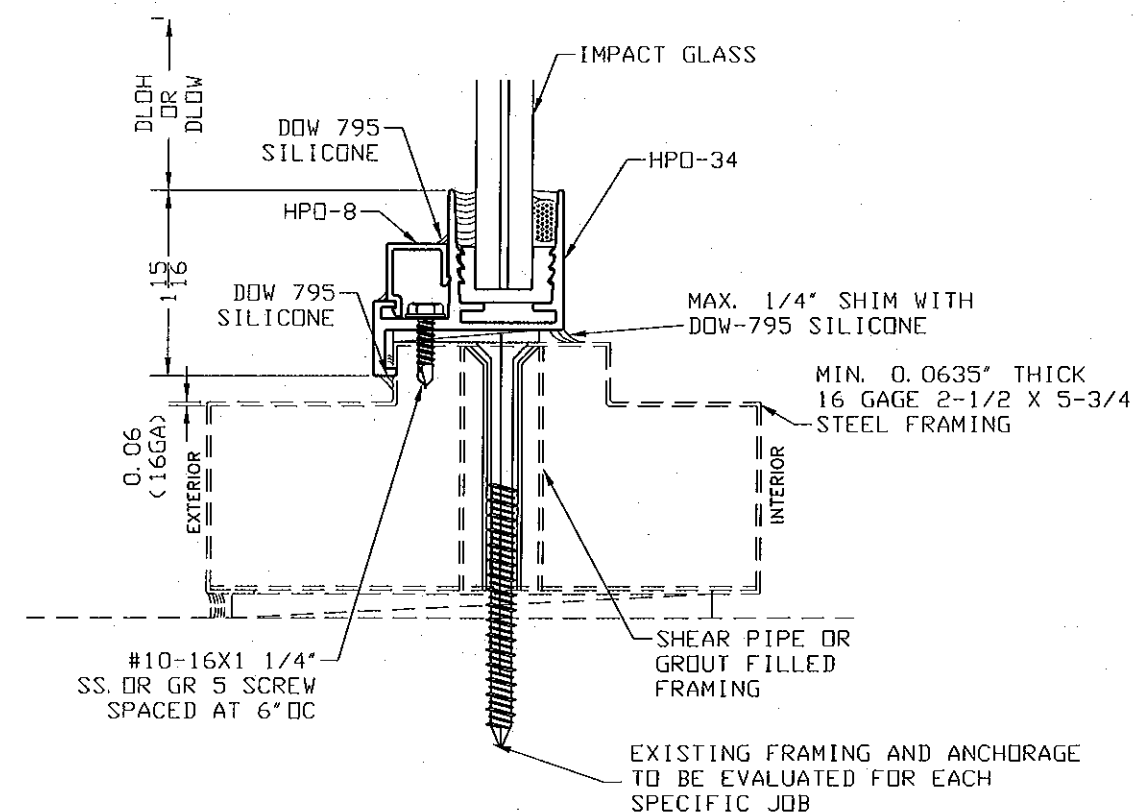
5 TYPICAL INTERMEDIATE VERTICAL APPROVED MULLION DETAIL

# TYPICAL SECTIONS

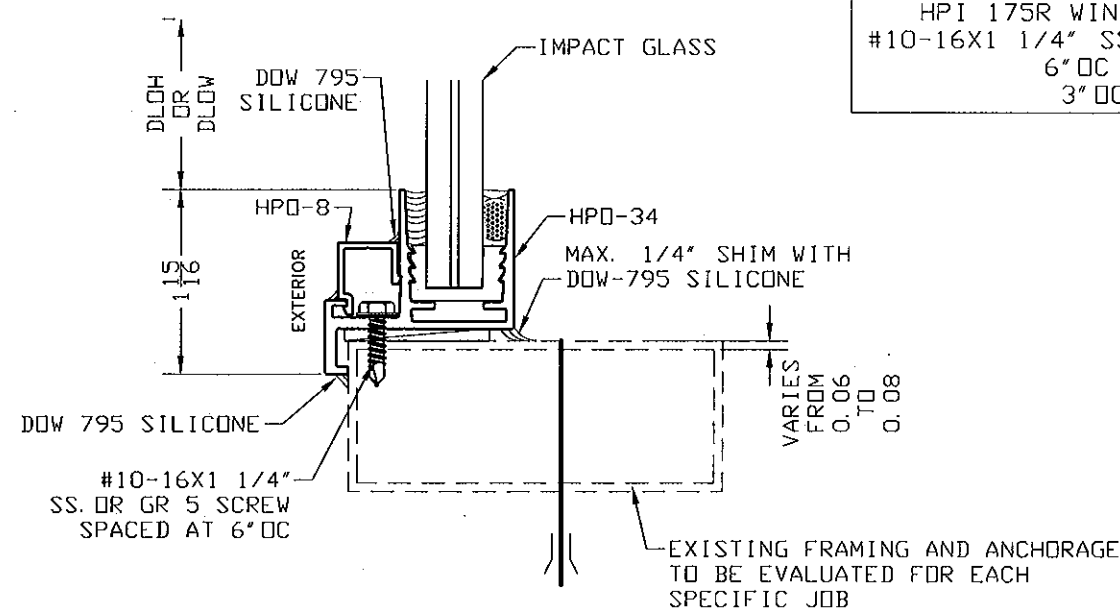
1 TYPICAL PERIMETER FRAMING INTO WOOD



1 TYPICAL PERIMETER FRAMING INTO STEEL WINDOW



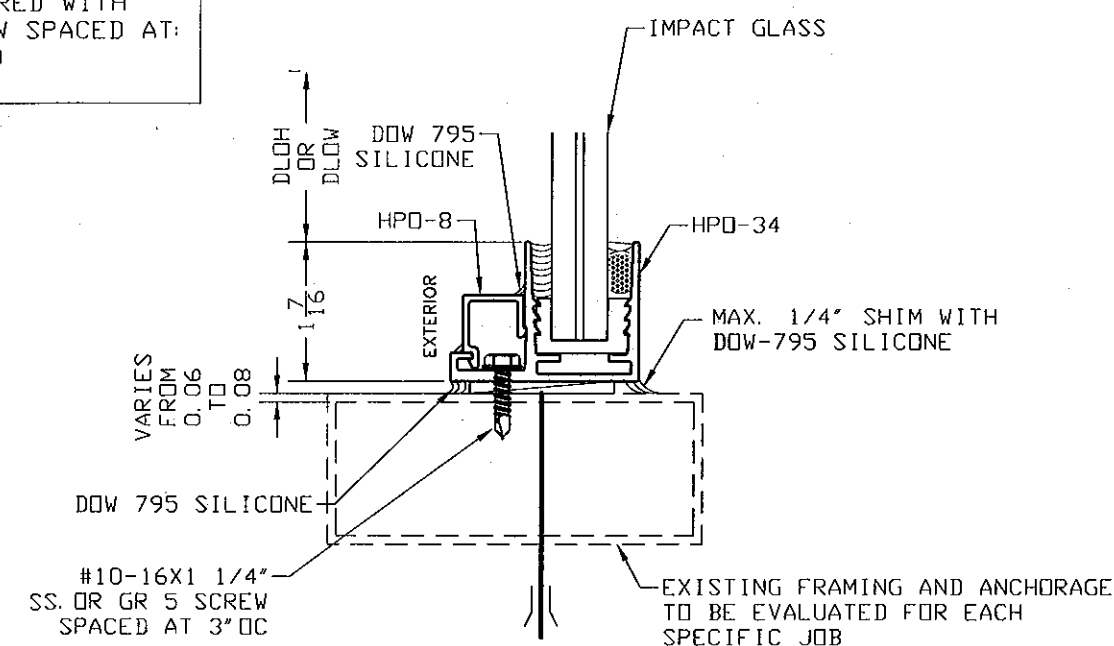
1 TYPICAL DETAIL PERIMETER FRAMING INTO ALUMINUM WINDOW



ALL EXISTING SUB FRAMING / STRUCTURES TO BE EVALUATED AS PER GENERAL NOTE 7.4

HPI 175R WINDOW TO BE SECURED WITH #10-16X1 1/4\"/>

1 TYPICAL DETAIL PERIMETER FRAMING W/OUT THE FLANGE INTO ALUMINUM WINDOW



# HPI

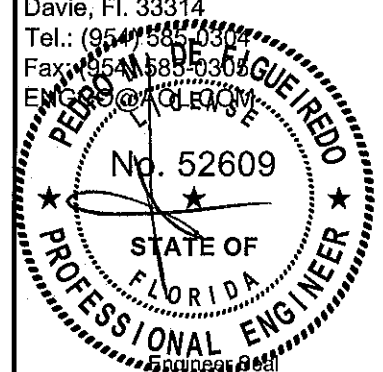
HURRICANE  
PROTECTING  
INDUSTRIES LLC

3301 SW 13th DRIVE  
DEERFIELD BCH, FL 33442  
Phone: (954) 392-7933  
Fax: (954) 392-7356

PRODUCT:  
**HPI 175R**  
RETROFIT GLAZING SYSTEM  
LARGE & SMALL MISSILE  
IMPACT RATED

Engineering:  
**EngCo Inc.**

CA 8116  
5595 Orange Dr. 201  
Davie, FL 33314  
Tel.: (954) 585-0304  
Fax: (954) 585-0304  
EMail: [engco@engco.com](mailto:engco@engco.com)



JUL 06 2012 Pedro De Figueiredo  
PE 52609

MIAMI-DADE BCCO:

PRODUCT REVISED  
as complying with the Florida  
Building Code  
Acceptance No. 12-0312.07  
Expiration Date 02.6.2015  
By *Manuel Serra*  
Miami Dade Product Control

Date: 07/06/12  
Scale: NA  
Design by: PPMF

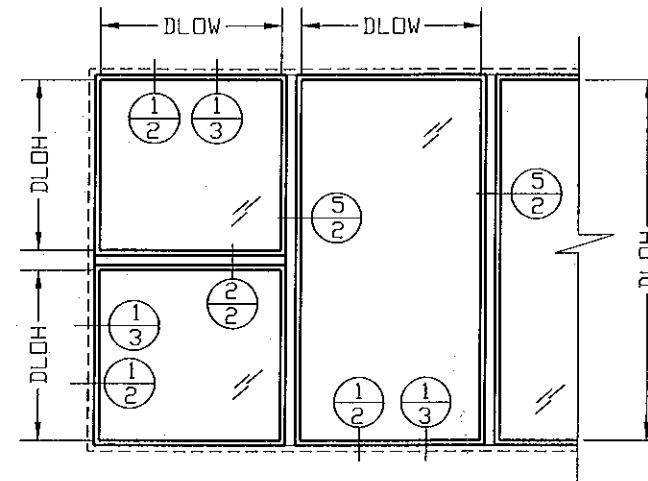
Drawing Number  
**12-019.1**

SHEET  
**3 of 8**

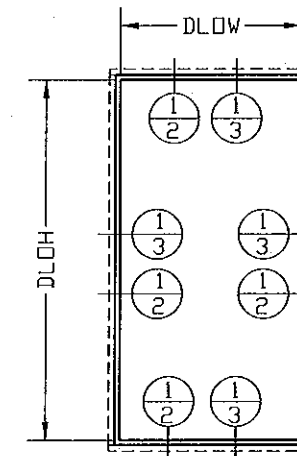
TABLE 1  
GLAZING CAPACITY  
DESIGNED RATING (PSF)

MAXIMUM DLO IN INCHES		DESIGNED RATING IN PSF	
DLOW	DLOH	(+)	(-)
36	24	90	120
	36	90	120
	48	90	120
	60	90	120
	72	90	118
	84	90	113
	96	90	109
	108	90	105
48	120	90	95
	24	90	120
	36	90	120
	48	90	120
	60	90	112
	72	90	101
	84	90	95
	96	90	90
60	108	70	70
	120	62	70
	24	90	120
	36	90	120
	48	90	112
	60	90	108
	72	90	95
	84	70	70
72	96	62	70
	103	52	68
	24	90	120
	36	90	118
	48	90	101
	60	90	93
	84	56	70
84	24	90	120
	36	90	113
	48	90	95
	60	70	70
96	24	90	120
	36	90	109
	48	90	90
108	24	90	120
	36	90	105
	48	70	70
120	24	90	120
	36	90	95
	48	62	70

GLAZING CAPACITY BASED ON  
ASTM E1300-04 (3 SEC. GUST)



MULTIPLE UNITS CONFIGURATION



INDIVIDUAL WINDOW CONFIGURATION

#### INSTALLATION INSTRUCTIONS

NOTES: UNITS CAN BE INSTALLED AS FOLLOW:

- 1- AS AN INDIVIDUAL WINDOW PART OF A NEW OR RETROFIT CONSTRUCTION. USE TABLE 1 TO CALCULATE MAXIMUM PRESSURE. USE APPLICABLE DETAILS ON SHEET 3 OF 8 TO DETERMINE REQUIRED ANCHORS.
- 2- IN MULTIPLE CONFIGURATION WITH APPROVED MULLIONS. USE TABLE 1 FOR GLAZING CAPACITY AND SEPARATE MULLION PRODUCT APPROVAL. USE THE LOWEST OF THE TWO VALUES AND USE APPLICABLE DETAILS ON SHEETS 2 AND 3 OF 8 TO DETERMINE REQUIRED ANCHORS.
- 3- MULTIPLE CONFIGURATIONS RETROFIT OVER EXISTING STOREFRONT AND CURTAIN WALLS SYSTEMS. EXISTING FRAMING TO BE VERIFIED BY EQUIVALENT ANALYSIS WITH MULLIONS TYPE 5A, 5B, 5C OR 5D. USE TABLE 1 FOR THE GLAZING CAPACITY AND TABLES 2 OR 3 IN CONJUNCTION WITH SITE SPECIFIC ENGINEERING ANALYSIS. THE LOWEST VALUE OF THE TWO CONTROLS THE DESIGN. USE APPLICABLE DETAILS ON SHEET 2 AND 3 OF 8 TO DETERMINE REQUIRED ANCHORS.
- 4- ALL RETROFIT WINDOWS TO BE EVALUATED IN A JOB BASIS FOR SYSTEM INTEGRITY AND ANCHORAGE CALCULATION. CONTRACTOR TO PROVIDE SITE SPECIFIC FOR EACH JOB.

# HPI

HURRICANE  
PROTECTING  
INDUSTRIES LLC

3301 SW 13th DRIVE  
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Phone: (954) 392-7933  
Fax: (954) 392-7356

PRODUCT:

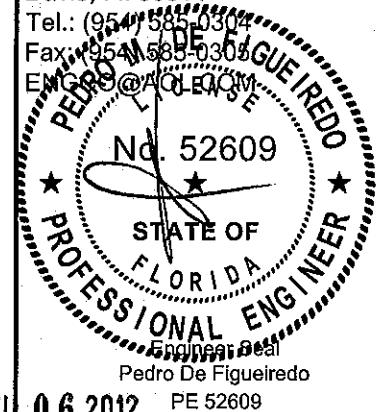
**HPI 175R**

RETROFIT GLAZING SYSTEM  
LARGE & SMALL MISSILE  
IMPACT RATED

Engineering:

**EngCo Inc.**

CA 8116  
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Davie, FL 33314  
Tel.: (954) 585-0304  
Fax: (954) 585-0305  
Email: [ENG@ENGCOINC.COM](mailto:ENG@ENGCOINC.COM)



JUL 06 2012

MIAMI-DADE BCCO:

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By *Manuel Silva*  
Miami Dade Product Control

Date: 07/06/12  
Scale: NA  
Design by: PPMF

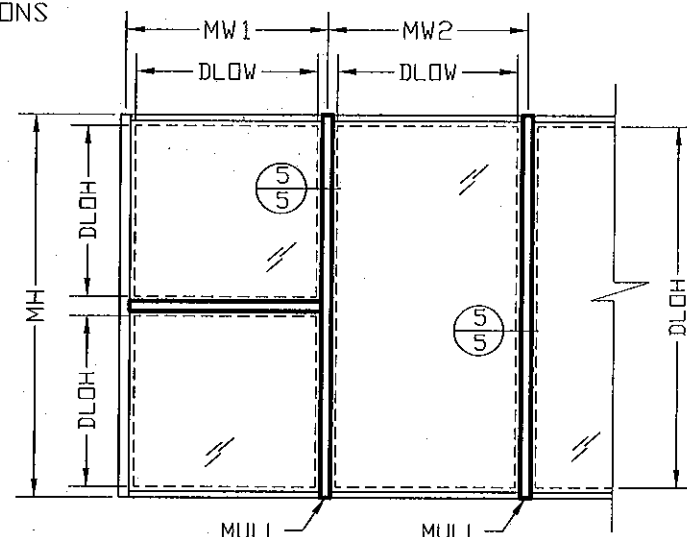
Drawing Number  
**12-019.1**

SHEET  
4 of 8

TABLE 2 - MULLION TYPE 5A OR 5B  
STOREFRONT RETROFIT VERTICAL MULLIONS  
DESIGNED RATING (PSF) POS/NEG

MW	MH	MULLION TYPE	
		TYPE 5A	TYPE 5B
24	72	120	120
30		103	106
36		88	91
42		79	81
48		72	74
54		67	69
60		64	66
66		61	63
72	84	61	63
24		93	95
30		75	77
36		64	66
42		55	57
48		50	52
54		46	48
60		43	44
66	96	41	42
24		70	73
30		57	59
36		48	49
42		42	43
48		37	38
54		34	35
60		31	32
24	102	62	64
30		50	51
36		42	44
42		37	38
48		33	34
54		30	31
60		--	--
66	108	55	56
24		45	46
30		37	38
36		33	34
42		--	30
48		--	--
54		--	--
60		--	--
24	120	44	46
30		36	37
36		30	31
42		--	--
48		--	--
54		--	--
60		--	--
66		--	--

DESIGN RATING IN PSF  
MW: MODULE WIDTH IN INCHES  
MH: MODULE HEIGHT IN INCHES  
INTERPOLATION ALLOWED



$$\text{MULLION SPACING: } MW = \frac{MW1 + MW2}{2}$$

SEE TABLE 1 FOR MAXIMUM DLOW X DLOH  
AND TABLE 2 FOR MULLION  
TYPE 5A OR 5B CAPACITY

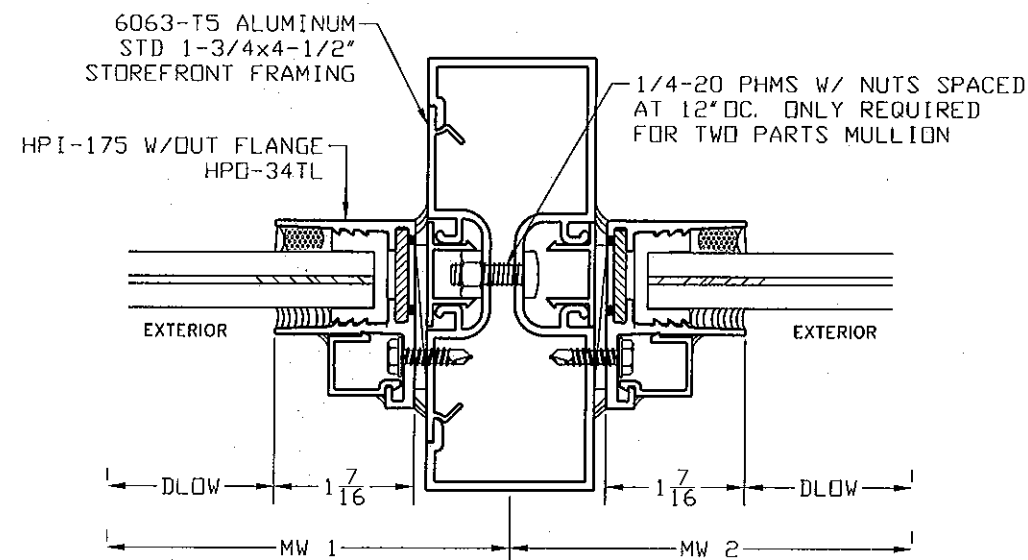
NOTES:

- 1- EXISTING WINDOW FRAMING TO HAVE 0.06" MINIMUM WALL THICKNESS AT RETROFIT WINDOW CONNECTION
- 2- EXISTING WINDOW MULLIONS PROPERTIES MUST BE EVALUATED PER JOB BASIS BY A PROFESSIONAL ENGINEER TO VERIFY ADEQUACY WITH ABOVE MULLION PROPERTIES.
- 3- INTERPOLATION IS ALLOWABLE ON TABLE 2
- 4- EXISTING MULLIONS AND PERIMETER FRAMING MUST BE PROPERLY ANCHORED IN ORDER TO TRANSFER LOADS TO THE MAIN STRUCTURE.
- 5- EXISTING FRAMING ANCHORAGE ARE TO BE CALCULATED ON A PER JOB BASIS.
- 6- MINIMUM (2) #10 SMS SECURING VERTICAL MULLION TO HORIZONTAL MEMBERS.

5A MULLION TYPE 5A MINIMUM PROPERTIES:

ALUMINUM EXTRUSION MADE OF  
MINIMUM 6063-T5 ALUMINUM ALLOY  
 $I_{xx} = 3.44 \text{ in}^4$  //  $S_{xx} = 1.46 \text{ in}^3$   
 $I_{yy} = 2.74 \text{ in}^4$  //  $S_{yy} = 1.11 \text{ in}^3$

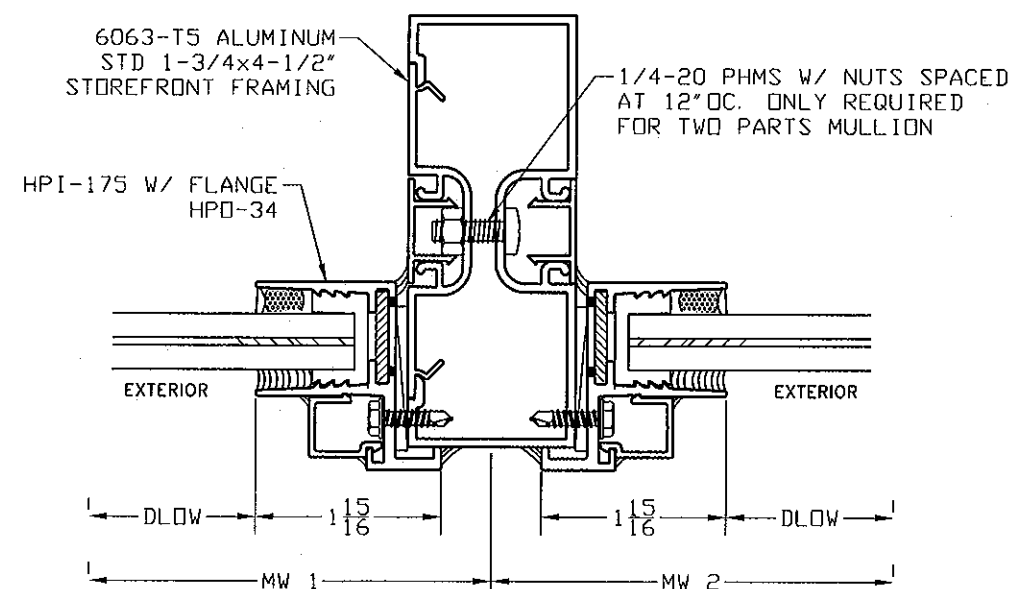
MAXIMUM END REACTION:  $R_a \leq 1259 \text{ lb}$   
MAXIMUM DEFLECTION:  $L/180$



5B MULLION TYPE 5B MINIMUM PROPERTIES:

ALUMINUM EXTRUSION MADE OF  
MINIMUM 6063-T5 ALUMINUM ALLOY  
 $I_{xx} = 4.94 \text{ in}^4$  //  $S_{xx} = 1.71 \text{ in}^3$   
 $I_{yy} = 2.81 \text{ in}^4$  //  $S_{yy} = 1.14 \text{ in}^3$

MAXIMUM END REACTION:  $R_a \leq 1259 \text{ lb}$   
MAXIMUM DEFLECTION:  $K = L/180$



HPI

HURRICANE  
PROTECTING  
INDUSTRIES LLC

3301 SW 13th DRIVE  
DEERFIELD BCH, FL 33442  
Phone: (954) 392-7933  
Fax: (954) 392-7356

PRODUCT:

HPI 175R  
RETROFIT GLAZING SYSTEM  
LARGE & SMALL MISSILE  
IMPACT RATED

Engineering:

EngCo Inc.

CA 8116

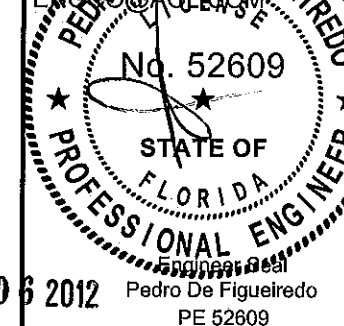
5595 Orange Dr. 201

Davie, FL 33314

Tel.: (954) 585-0302

Fax: (954) 585-0302

ENG@ENGCO.COM



JUL 06 2012

Pedro De Figueiredo  
PE 52609

MIAMI-DADE BCCO:

PRODUCT REVISED  
as complying with the Florida  
Building Code  
Acceptance No 12-0312.07  
Expiration Date Oct 6, 2015

By *Manuel Perez*  
Miami Dade Product Control

Date: 07/06/12

Scale: NA

Design by: PPMF

Drawing Number  
12-019.1

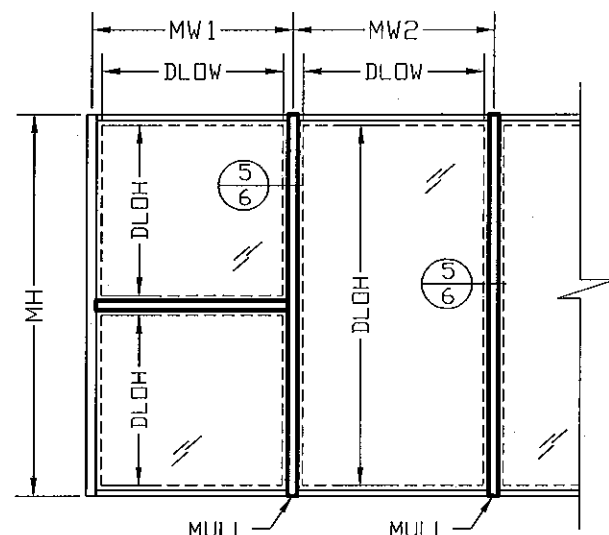
SHEET  
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TABLE 3 - MULLION TYPE 5C OR 5D  
STOREFRONT RETROFIT VERTICAL MULLIONS  
DESIGNED RATING (PSF)

MW	MH	MULLION TYPE	
		TYPE 5C	TYPE 5D
24	72	120	120
30		120	120
36		120	120
42		120	120
48		120	120
54		120	120
60		120	120
66		120	120
72		120	120
24	84	120	120
30		120	120
36		120	120
42		120	120
48		120	120
54		118	118
60		112	112
66		108	108
24	96	120	120
30		120	120
36		120	120
42		110	115
48		98	105
54		89	97
60		83	92
24	102	120	120
30		120	120
36		112	120
42		96	107
48		86	97
54		78	90
60		72	83
24	108	120	120
30		117	120
36		98	112
42		86	99
48		77	88
54		69	79
60		63	72
24	120	117	120
30		95	109
36		79	91
42		69	79
48		61	70
54		55	63
60		50	57

DESIGN RATING IN PSF  
MW: MODULE WIDTH IN INCHES  
MH: MODULE HEIGHT IN INCHES  
INTERPOLATION ALLOWED



$$\text{MULLION SPACING: } MW = \frac{MW1 + MW2}{2}$$

SEE TABLE 1 FOR MAXIMUM  
DLOW X DLOH AND TABLE 3 FOR  
MULLION TYPE 5C OR 5D CAPACITY

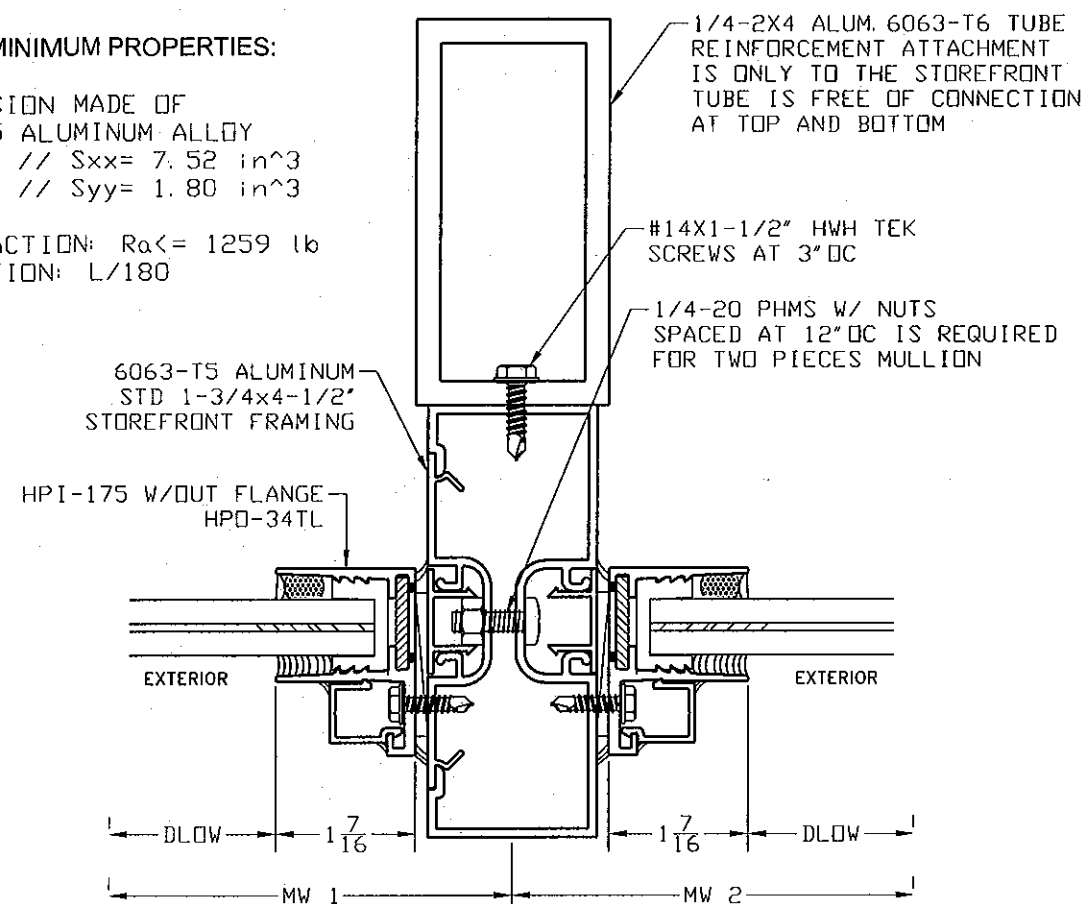
NOTES:

- 1- EXISTING WINDOW FRAMING TO HAVE 0.06" MINIMUM WALL THICKNESS AT RETROFIT WINDOW CONNECTION
- 2- EXISTING WINDOW MULLIONS PROPERTIES MUST BE EVALUATED PER JOB BASIS BY A PROFESSIONAL ENGINEER TO VERIFY ADEQUACY WITH ABOVE MULLION PROPERTIES.
- 3- INTERPOLATION IS ALLOWABLE ON TABLE 3
- 4- MULLIONS AND PERIMETER FRAMING MUST BE PROPERLY ANCHORED IN ORDER TO TRANSFER LOADS TO THE MAIN STRUCTURE.
- 5- EXISTING FRAMING ANCHORAGE ARE TO BE CALCULATED ON A PER JOB BASIS.
- 6- MINIMUM (2) #10 SMS SECURING VERTICAL MULLION TO HORIZONTAL MEMBERS.

5 MULLION TYPE 5C MINIMUM PROPERTIES:

ALUMINUM EXTRUSION MADE OF  
MINIMUM 6063-T5 ALUMINUM ALLOY  
 $I_{xx} = 33.39 \text{ in}^4$  //  $S_{xx} = 7.52 \text{ in}^3$   
 $I_{yy} = 4.42 \text{ in}^4$  //  $S_{yy} = 1.80 \text{ in}^3$

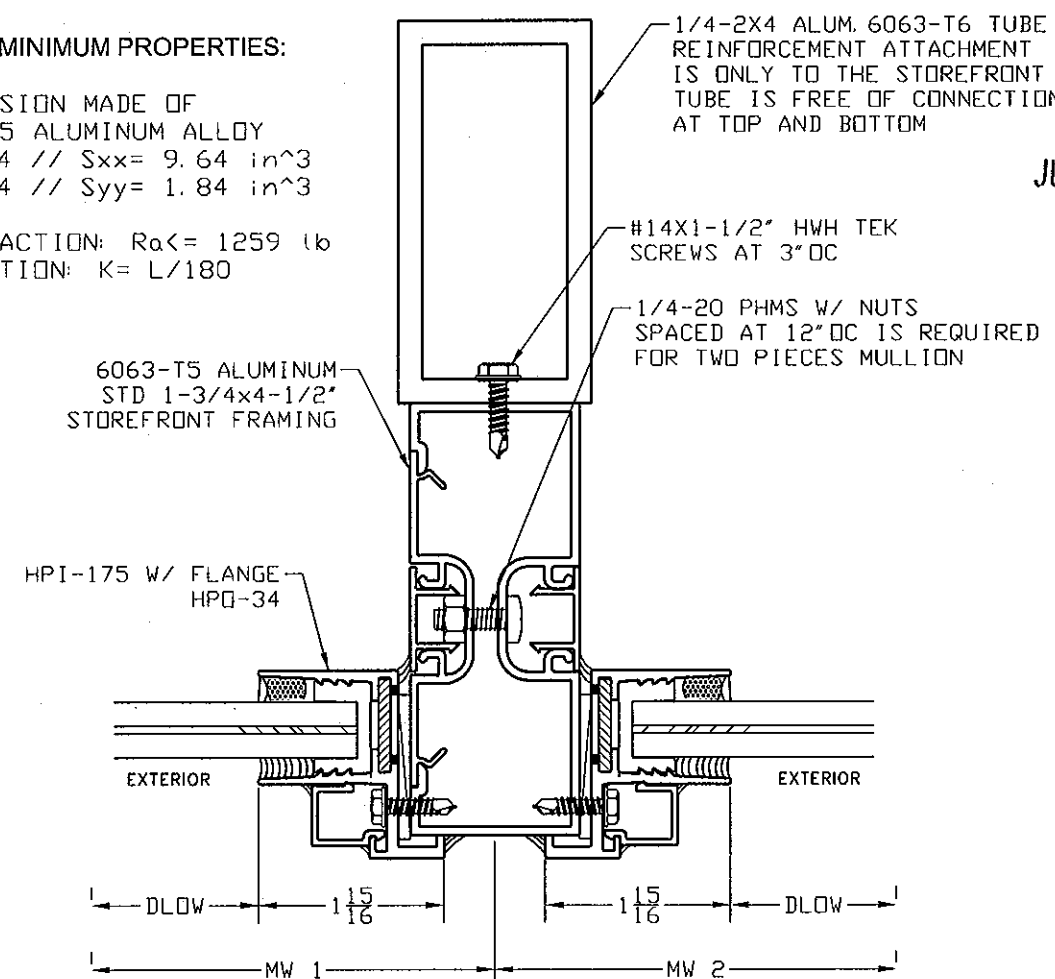
MAXIMUM END REACTION:  $R_a \leq 1259 \text{ lb}$   
MAXIMUM DEFLECTION:  $L/180$



5 MULLION TYPE 5D MINIMUM PROPERTIES:

ALUMINUM EXTRUSION MADE OF  
MINIMUM 6063-T5 ALUMINUM ALLOY  
 $I_{xx} = 42.33 \text{ in}^4$  //  $S_{xx} = 9.64 \text{ in}^3$   
 $I_{yy} = 4.50 \text{ in}^4$  //  $S_{yy} = 1.84 \text{ in}^3$

MAXIMUM END REACTION:  $R_a \leq 1259 \text{ lb}$   
MAXIMUM DEFLECTION:  $K = L/180$



**HPI**  
HURRICANE  
PROTECTING  
INDUSTRIES LLC

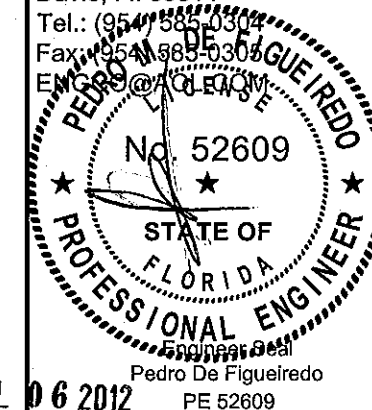
3301 SW 13th DRIVE  
DEERFIELD BCH, FL 33442  
Phone: (954) 392-7933  
Fax: (954) 392-7356

PRODUCT:  
**HPI 175R**  
RETROFIT GLAZING SYSTEM  
LARGE & SMALL MISSILE  
IMPACT RATED

Engineering:  
**EngCo Inc.**

CA 8116  
5595 Orange Dr. 201  
Davie, FL 33314

Tel.: (954) 585-0304  
Fax: (954) 585-0304  
Email: [engco@engco.com](mailto:engco@engco.com)



JUL 06 2012

MIAMI-DADE BCCO:

PRODUCT REVISED  
as complying with the Florida  
Building Code  
Acceptance No 12-0312.07  
Expiration Date Oct 6, 2015  
By *Maureen Perez*  
Miami Dade Product Control

Date: 07/06/12  
Scale: NA  
Design by: PPMF

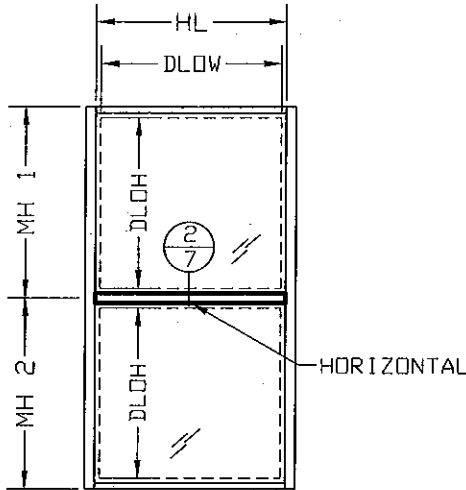
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**12-019.1**

SHEET  
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TABLE 4 - HORIZONTALS TYPE 2A OR 2B  
STOREFRONT RETROFIT INTERMEDIATE HORIZONTALS  
DESIGNED RATING (PSF)

MH	HL	MULLION TYPE	
		TYPE 2A	TYPE 2B
24	24	120	120
30		120	120
36		120	120
42		120	120
48		120	120
54		120	120
60	36	120	120
24		120	120
30		120	120
36		120	120
42		120	120
48		120	120
54	48	120	120
60		120	120
24		120	120
30		109	119
36		98	109
42		91	104
48	60	89	102
54		89	102
60		91	102
24		81	99
30		66	80
36		58	71
42	72	52	63
48		48	59
54		46	56
60		46	56
24		55	67
36		38	47
42	48	34	42
48		31	38
54		29	36
60	60	28	34

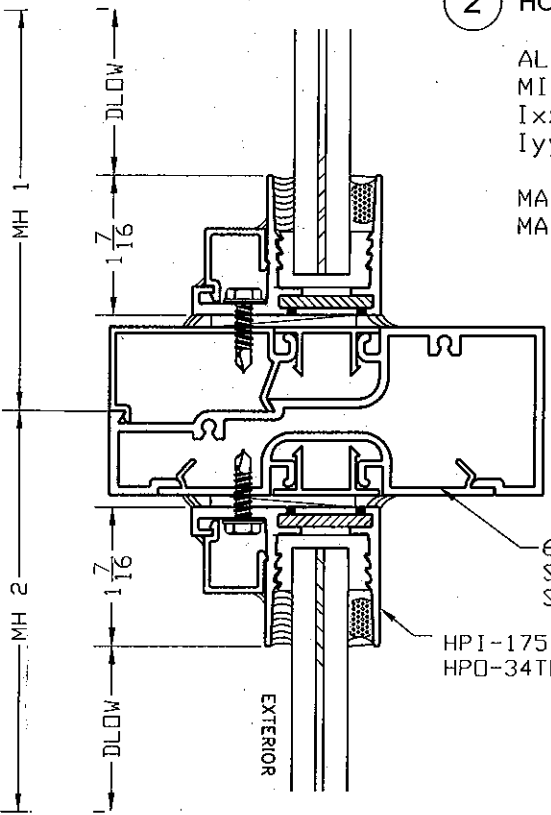
DESIGN RATING IN PSF  
HL: HORIZONTAL LENGTH IN INCHES  
(DIM. BETWEEN VERTICAL FRAMING)  
MH: MODULE HEIGHT IN INCHES  
INTERPOLATION ALLOWED



HORIZONTAL SPACING:  $MH = \frac{(MH1 + MH2)}{2}$

SEE TABLE 1 FOR MAXIMUM  
DLOW X DLOH AND TABLE 4 FOR  
HORIZONTAL TYPE 2A OR 2B CAPACITY

- NOTES:
- 1- EXISTING WINDOW FRAMING TO HAVE 0.06" MINIMUM WALL THICKNESS AT RETROFIT WINDOW CONNECTION
  - 2- EXISTING WINDOW FRAMING PROPERTIES MUST BE EVALUATED PER JOB BASIS BY A PROFESSIONAL ENGINEER TO VERIFY ADEQUACY WITH TESTED FRAMING PROPERTIES.
  - 3- INTERPOLATION IS ALLOWABLE ON TABLE 4
  - 4- PERIMETER FRAMING MUST BE PROPERLY ANCHORED IN ORDER TO TRANSFER LOADS TO THE MAIN STRUCTURE.
  - 5- EXISTING FRAMING ANCHORAGE ARE TO BE CALCULATED ON A PER JOB BASIS.
  - 6- MINIMUM (2) #10 SMS SECURING HORIZONTAL MEMBERS TO VERTICAL FRAMING.



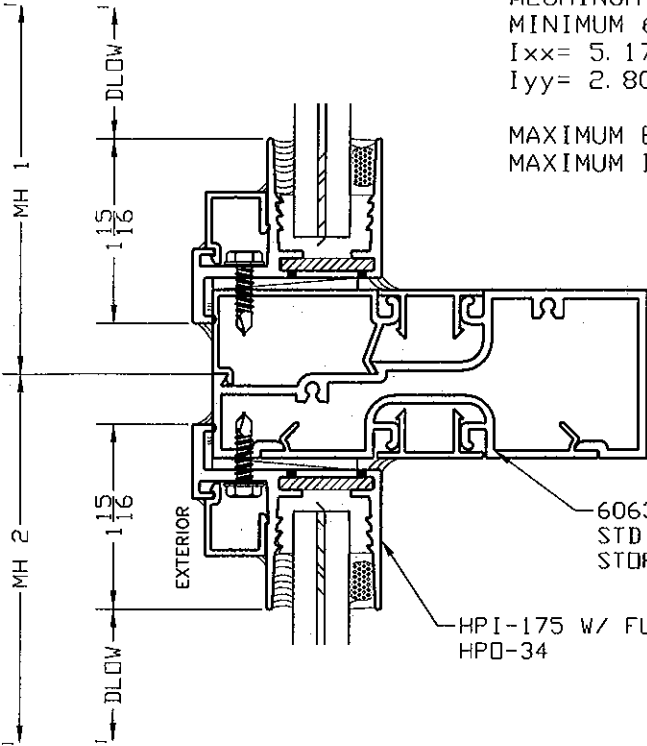
2 HORIZONTAL TYPE 2A MINIMUM PROPERTIES:

ALUMINUM EXTRUSION MADE OF  
MINIMUM 6063-T5 ALUMINUM ALLOY  
 $I_{xx} = 3.74 \text{ in}^4$  //  $S_{xx} = 1.56 \text{ in}^3$   
 $I_{yy} = 2.73 \text{ in}^4$  //  $S_{yy} = 1.10 \text{ in}^3$

MAXIMUM END REACTION:  $R_a \leq 408.5 \text{ lb}$   
MAXIMUM DEFLECTION:  $L/180$

6063-T5 ALUMINUM  
STD 1-3/4x4-1/2"  
STOREFRONT FRAMING

HPI-175 W/OUT FLANGE  
HPO-34TL



2 HORIZONTAL TYPE 2B MINIMUM PROPERTIES:

ALUMINUM EXTRUSION MADE OF  
MINIMUM 6063-T5 ALUMINUM ALLOY  
 $I_{xx} = 5.17 \text{ in}^4$  //  $S_{xx} = 1.79 \text{ in}^3$   
 $I_{yy} = 2.80 \text{ in}^4$  //  $S_{yy} = 1.13 \text{ in}^3$

MAXIMUM END REACTION:  $R_a \leq 408.5 \text{ lb}$   
MAXIMUM DEFLECTION:  $K = L/180$

6063-T5 ALUMINUM  
STD 1-3/4x4-1/2"  
STOREFRONT FRAMING

HPI-175 W/ FLANGE  
HPO-34

HPI

HURRICANE  
PROTECTING  
INDUSTRIES LLC

3301 SW 13th DRIVE  
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PRODUCT:  
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Engineering:  
EngCo Inc.

CA 8116  
5595 Orange Dr. 201  
Davie, FL 33314

Tel.: (954) 585-0304

Fax: (954) 585-0304

EMail: info@engco.com

Professional Engineer

No. 52609

STATE OF

FLORIDA

Professional Engineer

Pedro De Figueiredo

PE 52609

JUL 06 2012

MIAMI-DADE BCCO:

PRODUCT REVISED  
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Building Code  
Acceptance No. 12-0312.07  
Expiration Date Oct. 6, 2015

By *Manuel Pina*  
Miami/Dade Product Control

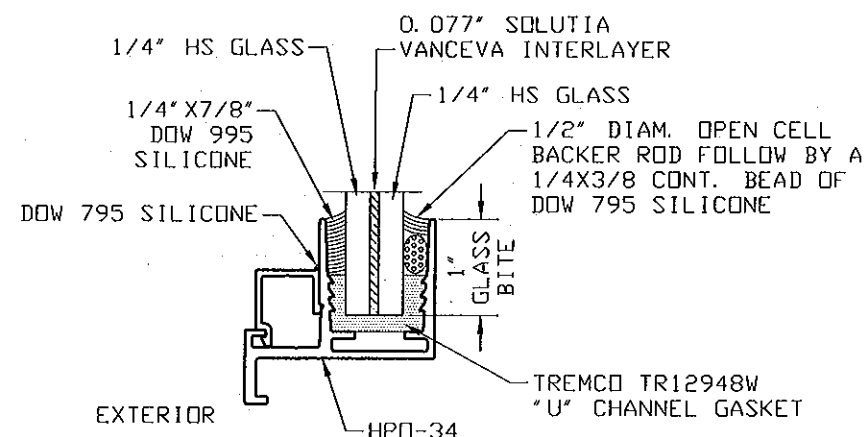
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Design by: PPMF

Drawing Number  
12-019.1

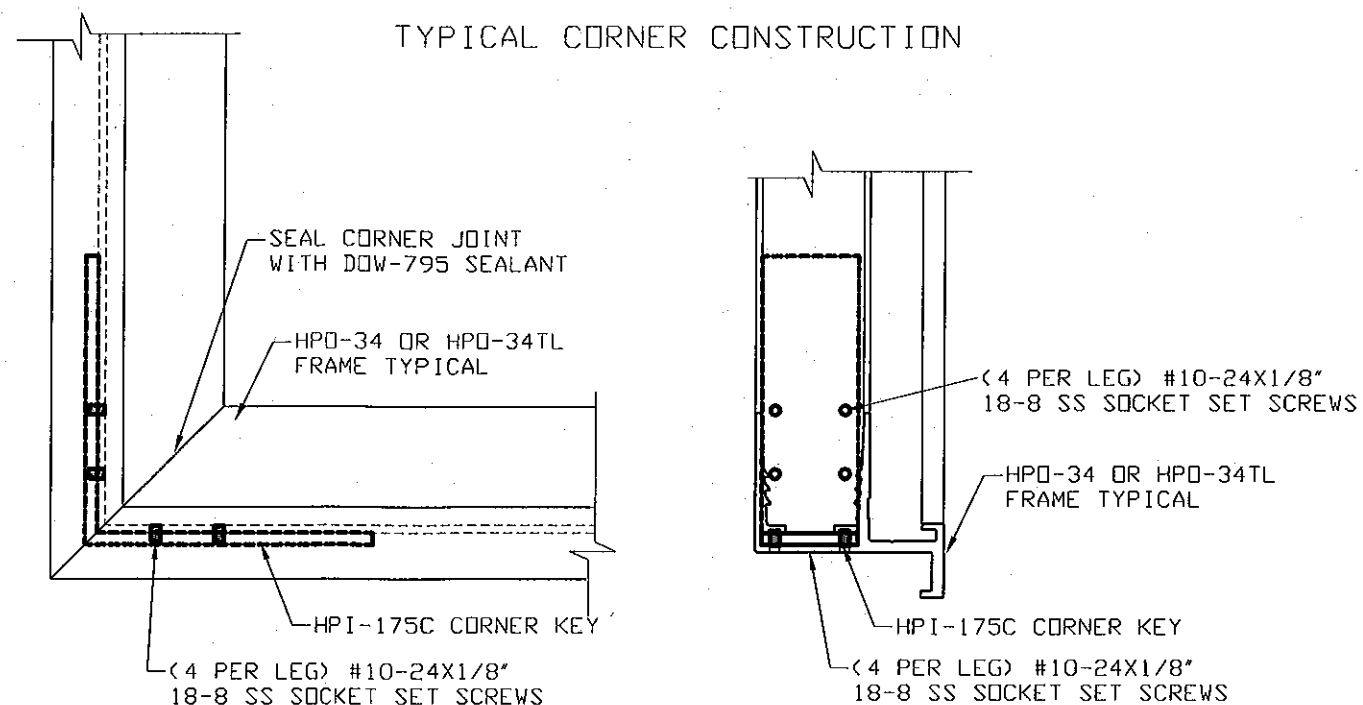
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## GLAZING OPTIONS

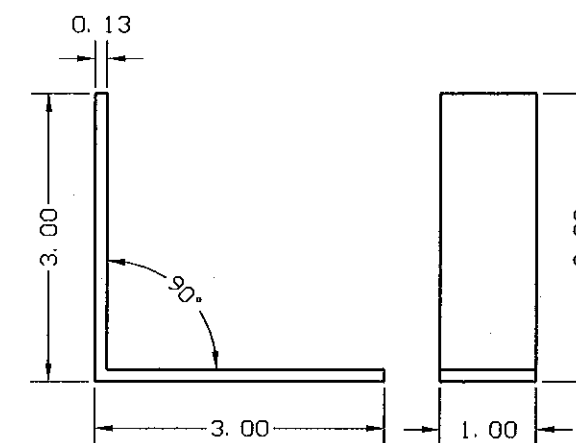
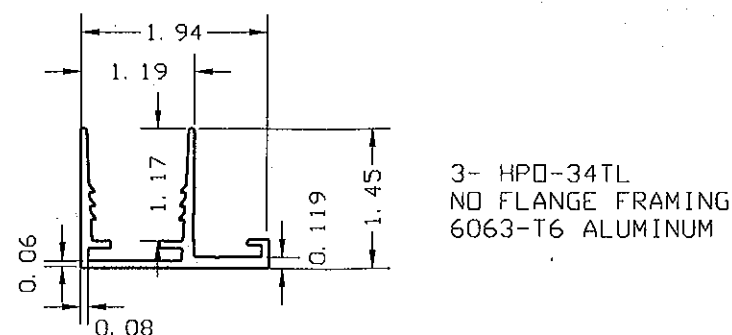
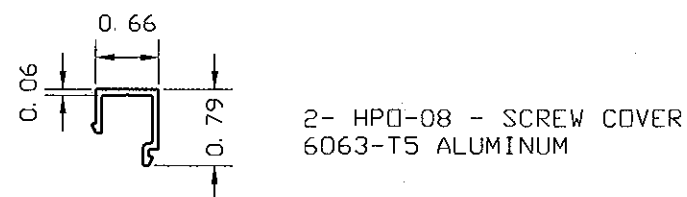
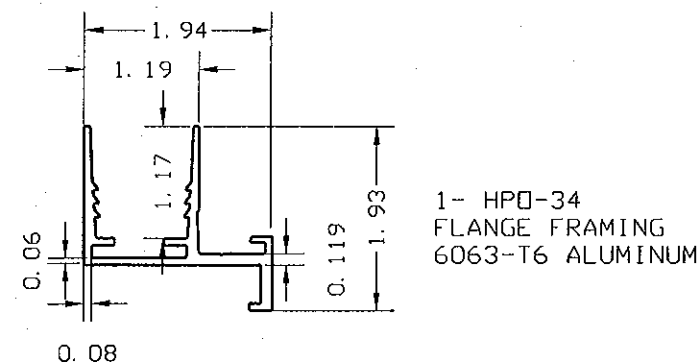
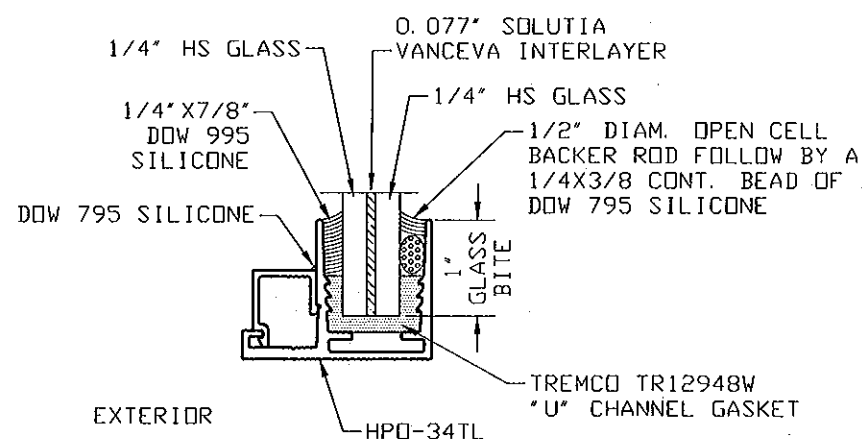
9/16" LAMINATED GLASS  
LARGE MISSILE



## TYPICAL CORNER CONSTRUCTION



## PRODUCT COMPONENTS



# HPI

HURRICANE  
PROTECTING  
INDUSTRIES LLC

3301 SW 13th DRIVE  
DEERFIELD BCH, FL 33442  
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PRODUCT:

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CA 8116  
5595 Orange Dr. 201  
Davie, FL 33314  
Tel.: (954) 585-0304  
Fax: (954) 585-0304  
Email: ENG@ENGCO.COM  
No. 52609  
STATE OF  
FLORIDA  
PROFESSIONAL ENGINEER  
Pedro De Figueiredo  
PE 52609

JUL 06 2012

MIAMI-DADE BCCO:

PRODUCT REVISED  
as complying with the Florida  
Building Code  
Acceptance No. 12-0312.07  
Expiration Date 07.6.2015

By *Manuel Perez*  
Miami/Dade Product Control

Date: 07/06/12  
Scale: NA  
Design by: PPMF

Drawing Number  
**12-019.1**

SHEET  
8 of 8